SWEPT FREQUENCY REFLECTOMETRY USING AN OPTICAL SIGNAL WITH SINUSOIDAL MODULATION

ABSTRACT OF THE DISCLOSURE

An optical line terminal determines an approximate location of impairment in an optical transmission path (e.g., optical fiber) without disconnecting the optical line terminal from the optical transmission path. The optical line terminal generates pilot tones that are modulated on an optical signal and used to make reflection and dispersion measurements in a frequency domain reflectometry manner, thus providing for in-vivo diagnostic testing of the optical transmission path. The dispersion can be automatically corrected by using a dispersion compensator.